



UNITED STATES PATENT AND TRADEMARK OFFICE

12

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/622,917	07/18/2003	Robert W. Dobbs	200300846-1	2747

22879 7590 02/15/2005

HEWLETT PACKARD COMPANY
P O BOX 272400, 3404 E. HARMONY ROAD
INTELLECTUAL PROPERTY ADMINISTRATION
FORT COLLINS, CO 80527-2400

EXAMINER

JIANG, CHEN WEN

ART UNIT PAPER NUMBER

3744

DATE MAILED: 02/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/622,917	DOBBS ET AL.	
	Examiner	Art Unit	
	Chen-Wen Jiang	3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18, 20, 21, 23-27 and 29-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20, 21, 23-27 and 29-35 is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 13, 14 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura et al. (JP20000277957 equivalent to US 6,487,074) in view of Mizuno (U.S. Patent Number 5,333,676) or Nakazato et al. (U.S. Patent Number 5,718,628).

Kimura et al. disclose a cooling system for electronic device. Referring to Figs. 3A, 4A and 4B, the system comprises a heat-generating element 30, cooling fan 42, switch 43 and port 40. A plurality of temperature sensors may be installed within the case 41, and the switching of the operations of the cooling fan may be controlled by inputting signals detected by the temperature sensors to the switching portion 43. According to the above system, portions in which the temperatures are raised at least the prescribed temperature are selectively and intensively cooled. A partition may be installed in the prescribed portion within the case 41 to control airflow within the case 41. However, Kimura et al. do not disclose using plurality sensors of plurality devices. Mizuno and Nakazato et al. disclose using plurality sensors of plurality devices in the same field of endeavor for the purpose of monitor the temperature of individual device. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the apparatus of Kimura et al. with plurality sensors of plurality devices in view of Mizuno and Nakazato et al. so as to monitor the temperature of

individual device. Under the principals of inherency, if a prior art device, in its normal and usual operation, would necessarily perform the method claimed, then the method claimed will be considered to be anticipated by the prior art device. When the prior art device is the same as a device described in the specification for carrying out the claimed method, it can be assumed the device will inherently perform the claimed process. *Ir re King*, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986).

3. Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura et al. in view of Mizuno or Nakazato et al. Kimura et al. in view of Mizuno or Nakazato et al. disclose the invention substantially as claimed. However, Kimura et al./ Mizuno or Nakazato et al. do not disclose wired or wireless link. It is common knowledge in the prior art to have either wired or wireless in the same field of endeavor for the purpose of control cooling. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have either wired or wireless in order to control cooling.

4. Claims 6,7,13,14,15 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanners (U.S. Patent Number 6,128,188).

Hanners discloses a self-balancing thermal control device for integrated circuits. Referring to Figs.15,16 and 21, the device comprises a fan 74,112, a controller 116, integrated circuits 80 (plurality ICs) and air flow controlling thermal control devices 82. The vanes of thermal control devices 82 (plurality control devices) within each channel control the relative amount of cooling air 75 that passes through that channel. **The thermal control device 82 is made of a thermomorphing material which is equivalent to the combination of temperature sensor and flow control vanes (e.g.; Iwatare (U.S. Patent Number 5,773,755)) (emphasis**

Art Unit: 3744

added). The vanes of thermal control devices 82 of Fig. 15 not only help to limit the temperature range of ICs 80, they also act as a cooling air balancing system directing cooling air to the ICs 80 that most need it, thereby tending to keep all ICs at a relatively uniform temperature. The spaces between circuit boards 72A-72E form channels through which cooling air 75 passes en route between inlet port 76 and outlet port 78. The temperature range can be further limited by placing a temperature sensor 84 in outlet 78. Under the principals of inherency, if a prior art device, in its normal and usual operation, would necessarily perform the method claimed, then the method claimed will be considered to be anticipated by the prior art device. When the prior art device is the same as a device described in the specification for carrying out the claimed method, it can be assumed the device will inherently perform the claimed process. *Ir re King*, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986).

5. Claims 11,12,16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanners (U.S. Patent Number 6,128,188). Hanners discloses the invention substantially as claimed. However, Hanners does not disclose wired or wireless link. It is common knowledge in the prior art to have either wired or wireless in the same field of endeavor for the purpose of control cooling. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have either wired or wireless in order to control cooling.

6. Claims 1,2,3,4,5,8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanners (U.S. Patent Number 6,128,188) in view of Spinazzola et al. (U.S. Patent Number 6,412,292).

In regard to claims 1,2,3,8 and 9, Hanners discloses a self-balancing thermal control device for integrated circuits. Referring to Figs. 15, 16 and 21, the device comprises a fan 74, 112,

Art Unit: 3744

a controller 116, integrated circuits 80 and air flow controlling thermal control devices 82 (plurality). The vanes of thermal control devices 82 within each channel control the relative amount of cooling air 75 that passes through that channel. **The thermal control device 82 is made of a thermomorphing material which is equivalent to the combination of temperature sensor and flow control vanes (e.g.; Iwatare (U.S. Patent Number 5,773,755)) (emphasis added).** The vanes of thermal control devices 82 of Fig. 15 not only help to limit the temperature range of ICs 80 (plurality), they also act as a cooling air balancing system directing cooling air to the ICs 80 that most need it, thereby tending to keep all ICs at a relatively uniform temperature. The spaces between circuit boards 72A-72E form channels through which cooling air 75 passes en route between inlet port 76 and outlet port 78. The temperature range can be further limited by placing a temperature sensor 84 in outlet 78. However, Hanners does not disclose the cooling air provided by an air conditioning system. Spinazzola et al. discloses cooling air provided by an air conditioning system in the same field of endeavor for the purpose of cooling electronic elements. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the apparatus of Hanners with an air conditioning cooling air in view of Spinazzola et al. so as to cool the electronic elements. Under the principals of inherency, if a prior art device, in its normal and usual operation, would necessarily perform the method claimed, then the method claimed will be considered to be anticipated by the prior art device. When the prior art device is the same as a device described in the specification for carrying out the claimed method, it can be assumed the device will inherently perform the claimed process. *Irre King*, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986).

Art Unit: 3744

In regard to claims 4 and 5, it is common knowledge in the prior art to have either wired or wireless in the same field of endeavor for the purpose of control cooling. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have either wired or wireless in order to control cooling.

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hanners, Spinazzola et al. as applied to claim 1 above, and further in view of Sagues et al. (U.S. Patent Number 4,557,225).

Sagues et al. disclose the step motor 38 controlled throttle valve 36 for flow control device.

Allowable Subject Matter

8. Claims 20,21,23-27 and 29-35 are allowed.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 3744

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chen-Wen Jiang whose telephone number is (571) 272-4809.

The examiner can normally be reached on Tuesday-Friday from 8:00 to 6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Denise Esquivel can be reached on (571) 272-4808. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chen-Wen Jiang
Primary Examiner

